REMARKS

The latest Office Action, dated October 21, 2003, considered claims 1-7 and 9-27. Claims 1-6, 9-14 and 16 were rejected under 35 U.S.C. § 102(b) as being anticipated by a newly cited article entitled "The Microsoft Interactive TV System: An Experience Report," dated July, 1997 (hereinafter referred to as "The Microsoft Article") and claims 17-20 were rejected in view of The Microsoft Article under 35 U.S.C. §103(a) for obviousness. [1] Claims 1-7 and 9 were also rejected under 35 U.S.C. §112 for failing to comply with the written description requirement, for containing subject matter that was determined to be inadequately described in the specification.

By this paper claims 1, 6, 7, 15-16, 21 and 26 have been amended and claim 28 has been added, such that claims 1-7 and 9-28 remain pending.[2] Of these claims, the only independent claims are claims 1, 10, 17, 21.

Claim 1 is directed to a method for compositing an image in such a way as to help reduce processing requirements for rendering an image by avoiding the processing of data that will not be visible during display of the image. The recited method includes dividing an image into a plurality of slices, lines and spans, and for each span, reading data from an image source without using a double image buffer. The portions of the image that are opaque and translucent are then identified. For each portion of the image that is translucent, the data from the corresponding image sources is read, blended and displayed. For each portion of the image that is opaque and that would be visible during display of the image, the visible image data is read, and without reading data that would not be visible.

Claim 10 is directed to another method for compositing an image in which the image data is read and displayed from the image sources without storing a composite image of the data in a double image buffer.

Claim 17 is directed to a method for reducing flicker of a displayed image by blending span data. In particular, image data that is subject to flickering and that is defined by a single span from a line is blended with the span data from the corresponding vertically adjacent spans

[1] Although the prior art status of The Microsoft Article is not being challenged at this time, Applicants reserve the right to challenge the prior art status of The Microsoft Article at any appropriate time, should it arise. Accordingly, any arguments and amendments made herein should not be construed as acquiescing to any prior art status of the cited reference.

[2] Support for new claim 28, as well as some of the other claim amendments, is drawn from the Specification line 6 of page 16 thru line 17 of page 17.

(e.g., the previous and next spans), and without blending the entire lines from which the vertically adjacent spans are obtained.

The last independent claim, claim 21, is directed to a method for blending data streams of different color spaces. As recited, the method includes receiving data streams at a blending module where they are directed to corresponding blending units that blend data streams having the same color space as the blending unit. Thereafter, the outputs from the blending units are converted into a single color space and blended into a final image data stream.

In the last Action, Claim 21 was only rejected for claim language informalities under 35 U.S.C. §112. By this paper, claim 21 has been amended to fix the claim language that was creating confusion. In particular, the term "blending unit" has been replaced with the term "blending module." The claim has also been amended to clarify that the blending module includes the "blending units." These amendments to the claim should overcome the rejections of record and place the claim in condition for allowance. Correspondingly appropriate changes have also been made to dependent claim 26, thereby overcoming the rejections to claim 26 as well.

Rejections to claim 1 under 35 U.S.C. §112 have also been overcome by claim amendment. In particular, the limitation of "one or more" has been deleted, as suggested by the Examiner, so as to more closely correspond with the described embodiments of the specification, in which a plurality of sources are read, blended and displayed. Correspondingly appropriate changes have also been made to dependent claims 6-7 to overcome the rejections made to those claims as well.

The rejections to claim 15, under 35 U.S.C. §112, have also been overcome by amending claim 14 and claim 15 to provide proper antecedent basis for all of the recited claim language. Claim 16 has also been amended to promote clarity and simplicity of the claim language.

Finally, with regard to the rejections made in view of the newly recited art, Applicants respectfully submit that the claims are neither anticipated by nor made obvious by The Microsoft Article. In particular, with regard to claim 1, The Microsoft Article does not anticipate or obviate a method for compositing an image that includes (a) dividing an image into slices and (b) spans and (c) for each span, reading data from an associated source without using a double image buffer, (d) identifying portions of the image that are opaque and translucent, (e) for translucent

portions, reading blending and displaying the source data, and (f) for opaque portions, reading only from the sources that will be visible without reading from sources that will be obscured.

Initially, with regard to teaching that image data is read without using a double image buffer, there is no reference made in the article at all regarding how image data is buffered or read without the use of an image buffer. Instead, the Article merely identifies different memory resources and capabilities of an Interactive Television System. This disclosure regarding memory capabilities does not imply or suggest in any way that images are rendered without the use of a double image buffer, particularly, in view of the disclosed prior art problems addressed by the current invention regarding the use of a plurality of buffers to alternate the buffering of images that are being composited and displayed. [3] In fact, references made in the Microsoft Article to numerous memory components could also be interpreted to infer double image buffering is performed.

In summary, regarding this point, Applicants submit that it is unreasonable to presume that an absence of disclosure describing how images are buffered in the Microsoft Article is sufficient to obviate or anticipate the claimed reading data without using a double image buffer.

Next, with regard to identifying opaque and translucent portions of an image and reading data corresponding to the opaque and translucent portions of the image, The Microsoft Article merely identifies different types of image data a particular chip can process. The reference to different formats of image data, however, should not be construed as teaching the element of identifying translucent and opaque portions of an image. At most, this teaching would merely suggest an image could include both translucent and opaque image portions.

Furthermore, the fact that the Burma chip can process pixel data having different alpha values in no way suggests, obviates, or anticipates the recited teaching that "for each portion of the image that is translucent, reading, blending and displaying the data from the sources corresponding to the translucent portion.

[3] In discussing the prior art, the specification states: "Compositing the...data is a lengthy process that often involves multiple data buffers. ...The final step of compositing the image often requires a system of full size image buffers. Typically, a double image buffer is used to display images that are being composited. While one of the image buffers containing a composited image is being displayed, the other image buffer is used to composite the next image. After the second image buffer has been composited, it is displayed while the image buffer that just finished being displayed is used to composite the next image. This process is repeated for each image being displayed on the display device." Page 3, ll. 1-2, 7-13.

The Examiner also suggests that an electronic program guide image (Figure 7-2) in some way suggests that for opaque portions of the image, that only the sources corresponding to the opaque portion that will be visible are read, without reading from sources corresponding to data that will not be visible. This, however, is simply not true. An image that shows objects in no way obviates or anticipates a specific teaching regarding the reading of visible data within an identified opaque portion without reading the corresponding data that is not visible.

For at least the foregoing reasons, Applicants respectfully submit that Independent claim 1 and the corresponding dependent claims are patentable over the Microsoft Article.

The foregoing arguments made with regard to the double image buffer also apply to claim 10. In particular, there is nothing in the Microsoft Article that suggests data is read from one or more sources according without storing a composite image of the data in a double image buffer. The fact that an article about an interactive television system fails to describe how image data is buffered during reading of the data, does not imply the data was read without using a double image buffer, particularly since that was the practice for rendering image data, as described in Applicants background section. (see page 3, ll. 1-13 of Applicants specification).

Accordingly, for at least the foregoing reasons, Applicants respectfully submit that Independent claim 10 and the corresponding dependent claims are patentable over the Microsoft Article.

Finally, with regard to claim 17, the Examiner suggests that paragraph 2 of section 3 and paragraph 3 of section 3.1 of the Microsoft Article teach the recited claim elements. This, however, is not true. In particular, paragraph 2 of section 3 merely states that the Burma chip is capable of "dynamically scaling and alpha blending (semi-transparently overlaying) multiple video and computer-generated graphics surfaces using different pixel representations into a single, flicker-filtered output image in real time." Likewise, paragraph 3 of section 3.1 merely stated that "Flicker filtering can be controlled on a per-span basis." This conclusive result, however, is not supported by any enabling disclosure to describe how flicker filtering is controlled on a per-span basis. There is no disclosure in the Microsoft Article to suggest that vertically adjacent spans from previous and subsequent lines are blended with the span data subject to flickering, without blending entire lines, as recited in the claims. Rather, the Microsoft Article, again, merely states "Flicker filtering can be controlled on a per-span basis." Accordingly, considering there are many different ways for controlling flickering on a per span

basis, such as, for example, the 1-2-1, 1-3-1, and 1-4-1 techniques, disclosed in the previously cited Perlman[4] reference, it can not be presumed that the specific result disclosed in the Microsoft Article either anticipates or makes obvious the specific method for obtaining a similar result. In particular, Applicants are claiming a method for obtaining a result, not the result itself. Accordingly, the disclosure in the Microsoft Article stating that flickering can be controlled on a per-span basis fails to meet the burden of obviating or anticipating Applicants claimed method for reducing flickering.

Accordingly, for at least the foregoing reasons, Applicants respectfully submit that claim 17 and the corresponding dependent claims are neither anticipated by nor made obvious by the Microsoft Article. For at least these reasons, Applicants also submit that all of the pending claims 1-7 and 9-28 are now in condition for prompt allowance.

In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney.

Dated this 19 day of January 2004.

Respectfully submitted,

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[4] U.S. Patent No. 4,642,621 was cited in the last Action. See (Col. 6, ll. 10-20).